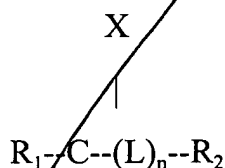


What is claimed is:

[illegible]

1. A compound of the formula:



wherein  $\text{R}_1$  is a light-emitting moiety and  $\text{R}_2$  is a bombesin-like peptide, fragment, derivative or analog thereof, and  $\text{L}$  is a linker moiety,

wherein  $n$  is 1 or 0, and  $(\text{C}-\text{X})$  is selected from the group consisting of  $\text{C}=\text{O}$ ,  $\text{C}=\text{S}$ ,  $\text{CH}(\text{OH})$ ,  $\text{C}=\text{C}=\text{O}$ ,  $\text{C}=\text{NH}$ ,  $\text{CH}_2$ ,  $\text{CH}(\text{OR})$ ,  $\text{CH}(\text{NR})$ ,  $\text{CH}(\text{R})$ ,  $\text{CR}_3\text{R}_4$ , and  $\text{C}(\text{OR}_3)\text{OR}_4$  where  $\text{R}$ ,  $\text{R}_3$ , and  $\text{R}_4$  are alkyl moieties or substituted alkyl moieties, and

wherein  $(\text{L})_n-\text{R}_2$  is linked to  $(\text{C}-\text{X})$  at  $\text{L}$  or at an amino acid position selected such that the compound exhibits substantial biological activity in the presence of a receptor having affinity for bombesin-like peptides, wherein said compound exhibits substantial biological activity in the presence of a receptor having affinity for bombesin-like peptides.

2. The compound of claim 1, wherein  $n=1$  and  $\text{R}_2$  is attached to  $\text{R}_1$  via a linker moiety.

3. The compound of claim 1, wherein  $n=0$  and  $\text{R}_2$  is directly attached to  $\text{R}_1$ .

4. The compound of claim 2 wherein the linker moiety is selected from the group consisting of include  $\gamma$ -aminobutyric acid, glycine, beta-alanine, aminopentanoic acid, aminohexanoic acid, aminohepanoic acid, aminooctanoic acid, aminononanoic acid, aminodecanoic acid, aminoundecanoic acid, and aminododecanoic acid.

1           5. The compound of claim 1 wherein R<sub>2</sub> is comprised of Val-Pro-Leu-Pro-Ala-  
2 Gly-Gly-Gly-Thr-Val-Leu-Thr-Lys-Met-Tyr-Pro-Arg-Gly-Asn-His-Trp-Ala-Val-Gly-  
3 His-Leu-Met (SEQ ID NO:2).  
4

5           6. The compound of claim 1 wherein R<sub>2</sub> is comprised of Gly-Asn-Leu-Trp-Ala-  
6 Thr-Gly-His-Phe-Met (SEQ ID NO:3).  
7

8           7. The compound of claim 1 wherein R<sub>2</sub> is comprised of Gly-Asn-His-Trp-Ala-  
9 Val-Gly-His-Leu-Met (SEQ ID NO:4).  
10

11           8. The compound of claim 1 wherein R<sub>2</sub> is comprised of Dphe-Gly-Trp-Ala-Val-  
12 betaAla-His-Phe-Nle (SEQ ID NO:5).  
13

14           9. The compound of claim 2, wherein R<sub>2</sub> is comprised of (SEQ ID NO:5) and is  
15 attached to the linker  $\gamma$ -aminobutyric acid.  
16

17           10. The compound of claim 1, wherein n=0 said amino acid position comprises  
18 the N-terminus of said bombesin-like peptide.  
19

20           11. The compound of claim 10, wherein said N-terminus of said bombesin-like  
21 peptide is attached to (C-X) at  $\alpha$ N-position.  
22

23           12. The compound of claim 5, wherein said N-terminus amino acid residue is Val.  
24

25           13. The compound of claim 6, wherein said N-terminus amino acid residue is Gly.  
26

- 1 14. The compound of claim 7, wherein said N-terminus amino acid residue is Gly.
- 2
- 3 15. The compound of claim 8, wherein said N-terminus amino acid residue is
- 4 Dphe.
- 5
- 6 16. The compound of claim 1, wherein  $R_1$  is bound, through C, to a region of said
- 7  $R_2$  peptide which is not involved in said biological activity.
- 8
- 9 17. The compound of claim 1, wherein said  $R_2$  peptide binds to a human receptor.
- 10
- 11 18. The compound of claim 1, wherein said light-emitting moiety is selected from
- 12 the group consisting of Bodipy, fluorescein, FITC, Texas red, phycoerythrin, rhodamine,
- 13 carboxytetra-methylrhodamine, indopyras dyes, Cascade blue, coumarins, NBD, Lucifer
- 14 Yellow, propidium iodide, dinitrophenol (DNP), lanthanide cryptates, lanthanide chelates,
- 15 non-fluorescent dialdehydes which react with primary amines to form fluorescent
- 16 isoindoles, ALEXA dyes, dansyl, fluorescamine and dabcyI chloride, IAEDANS, long
- 17 lifetime dyes comprised of metal-ligand complexes (MLC) and derivatives thereof.
- 18
- 19 19. The compound of claim 1, wherein (C-X) is selected from the group
- 20 consisting of C=O and C=S.
- 21
- 22 20. The compound of claim 1, wherein said compound is a pharmaceutically
- 23 acceptable salt or complex thereof.
- 24
- 25 21. A method for labeling a receptor having an affinity for a bombesin-like
- 26 peptide by contacting said receptor with the compound of claim 1.

1           22. A method for generating a biologically active compound of claim 1,  
2 comprising:  
3           reacting  $R_1$  and  $R_2$  in an aqueous solution to form a mixture comprising the  
4 compound of claim 1 and secondary compounds having biological activities less than  
5 0.25% of the biological activity of  $R_2$ -H in the presence of a receptor having affinity for  
6 bombesin-like peptides;  
7           contacting the mixture with a receptor for bombesin-like peptides; and  
8           isolating from said mixture a light-emitting compound exhibiting substantial  
9 biological activity in the presence of said bombesin-like peptide receptor.

10  
11           23. The method of claim 22, wherein said isolating step comprises:  
12 releasing said light emitting compound from said bombesin-like peptide receptor;  
13 and  
14 isolating said light-emitting compound.

15  
16           24. The method of claim 23, wherein said step of isolating said light-emitting  
17 compound includes selection by high pressure liquid chromatography.  
18

19           25. A method for imaging cell receptor sites comprising contacting candidate cell  
20 receptor sites with a compound of claim 1, and detecting said bound compounds as an  
21 indication of said cell receptor sites.  
22

23           26. A method of cell sorting comprising contacting a population of candidate cells  
24 with a compound of claim 1, and isolating cells bound to said compound.  
25

26           27. A method of flow cytometry comprising contacting a population of cells with

- 1 a compound of claim 1 and detecting cells bearing receptors on their surfaces by detecting  
2 cells bound to said compound.

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